

## CLAIMS

1. A multi-nuclear metal molecular beam apparatus,  
which generates an ion beam by using a multi-nuclear metal  
5 molecule.

2. The multi-nuclear metal molecular beam apparatus  
as claimed in claim 1, wherein the multi-nuclear metal  
molecule that is vaporized or atomized, is ionized.

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3. The multi-nuclear metal molecular beam apparatus  
as claimed in claim 2, wherein the multi-nuclear metal  
molecule that is vaporized or atomized, is ionized by  
electron impact.

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4. The multi-nuclear metal molecular beam apparatus  
as claimed in claim 2, wherein the multi-nuclear metal  
molecule that is vaporized or atomized, is ionized by  
light irradiation.

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5. The multi-nuclear metal molecular beam apparatus  
as claimed in claim 2, wherein the multi-nuclear metal  
molecule that is vaporized or atomized, is ionized by  
plasma.

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6. The multi-nuclear metal molecular beam apparatus as claimed in claim 2, wherein the multi-nuclear metal molecule that is vaporized or atomized, is ionized by an electric field.

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7. The multi-nuclear metal molecular beam apparatus as claimed in claim 2, wherein the multi-nuclear metal molecule that is vaporized or atomized, is ionized by electric charge exchange of highly-excited electrons.

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8. The multi-nuclear metal molecular beam apparatus as claimed in claim 1, wherein the multi-nuclear metal molecule is vaporized and simultaneously ionized.

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9. The multi-nuclear metal molecular beam apparatus as claimed in claim 8, wherein the multi-nuclear metal molecule is ionized by laser ablation.

10. The multi-nuclear metal molecular beam apparatus as claimed in any one of claims 1 to 7, wherein the multi-nuclear metal molecule is dissolved in a solvent and generated as mist, and the mist of the multi-nuclear metal molecule is given an electric charge, to be ionized.

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11. A multi-nuclear metal molecular beam apparatus,

comprising:

vaporization means of a multi-nuclear metal  
molecule;

ionization means;

5 acceleration means;

convergence means; and

scanning means.